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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,424	04/22/2005	Kensaku Fujii	0080-0234PUS1	3734

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EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1791

NOTIFICATION DATE	DELIVERY MODE
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06/10/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/532,424	FUJII ET AL.	
	Examiner	Art Unit	
	Steven D. Maki	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12, 15-18, 20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12, 15-18, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2) **Claims 12, 15-18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 684 (JP 59-025684, cited by applicant) in view of Soviet Union (SU 408,833) and optionally further in view of Japan 608 (JP 55-110608) and/or Slingluff (US 5,980,668).¹**

Japan 684 discloses a tire having a tread T comprising circumferential grooves and circumferential ribs wherein recessed portions 1 are formed in the ribs. Wear indicating portion 2 including a projection and/or depression is provided on at least one side of the recessed portion 1. A degree of specific wear such as partial wear and different level wear as well as a degrees of usual wear can be recognized almost exactly only by a visual check without a measure. See Figure 1a and tire and abstract provided by applicant. The wear indicating portion 2 is configured to form steps. See Figures 2a-2f. The contour of the wear indicating portion 2 may comprise straight lines (Figure 2a) or curved lines (Figure 2c). The wear indicating portion 2 may be formed as a "hole" in the tread. See Figure 2f. The wear indicating hole 2 in Figure 2f has two steps wherein the first step is on a tread surface side and a second step is located closer to a bottom side than the first step. The first step has a contour of a wider

¹ The publication number for Japan 684 is 59-025684. The application number for Japan 684 is 54-158536.

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polygon formed by straight lines. The second step has a contour of a narrower polygon formed by a straight lines. Since the ends of the narrower polygon contact the ends of the wider polygon, the contour of the second step (narrower polygon) of the wear indicating hole in Figure 2f is "included in" the contour of the first step. Japan 684 does not recite providing the steps of the wear indicating hole such that one step has a contour including a polygon formed by straight lines and the other step has a different contour including a loop shape formed by a curved lines.

Soviet Union discloses a pneumatic tire having a tread comprising a wear indicator having a stepped shape for permitting tire wear to be assessed. During a partial oral translation by a USPTO translator, the following information was obtained:

- 1 = indicator
- 2 = projections
- 3 = depressions (grooves) of the protector

and

Figure 3 is the same in the form of a modified design of the body of the projection of the tire girdle. (col. 3 lines 4-5)

and

Whatever has been said above to the full extent pertains to the cases of utilization of the projections of the drawing of the protector as an indicator of the residual resource of the tire, (see figure 2), e.g., the protector's separate blocks or bodies of the large size massive projections (of the tire girdles) (Figure 3). (col. 3 lines 24-30)

and

As for the shape of the cross section of the steps [stages] of the indicator are concerned, this shape can be different, and in particular, rectangular (Fig. 4), rhomboidal corresponding to the shape of the block, on the basis of which indicator has been designed (Fig. 2), circular (Fig. 5) etc. Where possible the cross sections can have the shape, for example, the lower indicator rectangular,

the intermediate one - rhomboidal or square, the upper one circular (Fig. 6). (col. 4 lines 9-18).

Soviet Union discloses FIRST EMBODIMENT (figures 1 and 2). In figure 1, the tread comprises wear indicator 1 and projections 2 ("tread elements"). Figure 2 shows the projections ("tread elements") having the form of blocks. With respect to this first embodiment, the abstract of Soviet Union teaches "... the wear indicator has the form of a stepped pyramid, which can be formed by shaping one of the tread projections ...". Soviet Union also discloses a SECOND EMBODIMENT (figure 3). In this alternative embodiment, Soviet Union shows a tread comprising two rows of "lugs" wherein the indicator is within one of the lugs. With respect to this second embodiment, the abstract of Soviet Union states "... the wear indicator ... can have the form of an opening in one of these projections". Hence, Soviet Union teaches (1) a "projection" for use as an indicator having a stepped or (2) a "hole" for use as an indicator having a stepped shape. In figure 4, Soviet Union shows a wear indicator having three rectangular steps. In figure 5, Soviet Union shows a wear indicator having three circular steps. In figure 6, Soviet Union shows a wear indicator having three steps, wherein the first upper step is circular, the second intermediate step is rhomboidal or square, and third lower step is rectangular. Hence, Soviet Union teaches a stepped wear indicator wherein the steps have the same contour (figures 4, 5) or different contours (figure 6).

Japan 608 discloses a tire with a tread comprising a stepped hole 17 for indicating wear. Japan 608 describes using a tetragonal shape for the stepped hole. With respect to Japan 608, applicant acknowledges: "JP '608 discloses a tire tread having a stepped hole 17 with a tetragonal shape for indicating wear. When a first step

of the hole disappears, a first rotation is carried out and when a second step of the hole disappears, a second rotation is carried out." (page 6 of after final amendment filed 10-1-07).

Slingluff discloses a tire having a wear indicator comprising a plurality of pattern parts such as holes. When the tread wears such that any particular pattern part is no longer visible, then it is time to rotate the tire to another wheel position. See figures 1-4.

As to claim 12, it would have been obvious to one of ordinary skill in the art to *shape* the steps of Japan 684's wear indicating hole such that one step (one perimeter edge) has a contour including a polygon formed by straight lines and the other step (other perimeter edge) has a different contour including a loop shape formed by a curved lines since Soviet Union shows facilitating visual identification of different steps of a wear indicator by providing one step with straight lines and another step with curved lines (see figure 6) as an alternative to providing all steps with straight lines (figure 4) or providing all steps with curved lines (figure 5). Japan 684 and Soviet Union are in the same field of endeavor of wear indicators for tires. In view of the similarity in structure (steps) and function (indication of wear) of Japan 684 and Soviet Union, one of ordinary skill in the art would have found it obvious to use *different shapes* for the steps of the wear indicating hole of Japan 684 - only the expected results of facilitation of indication of tire tread wear being obtained.

In claim 12, the description of "rotation timing indication hole" and "have depths separately representative of different degrees of wear of a tread surface until tire rotation timing" relate to intended use and fail to require hole structure not suggested by

the above applied prior art. In any event: it would have been obvious to provide the steps of Japan 684's stepped wear indicating hole *with depths* for indicating timing for rotation of a tire since (1) Japan 608 teaches providing the steps of a stepped wear indicating hole with depths so that when a first step of the hole disappears, a first rotation is carried out and when a second step of the hole disappears, a second rotation is carried out and/or (2) Slingluff suggests using holes of different depths to indicate when the tire has worn to a level where it is due for rotation to another wheel position on a vehicle. Hence, the applied prior art to Japan 608 and/or Slingluff teach using Japan 684's stepped hole (Figure 2f) as a "rotation timing indication hole".

With respect to "inscribed on or included in", the perimeter of the second lower step of Japan 608 contacts the perimeter of the first upper step in the Figure 2f embodiment. One of ordinary skill in the art would have readily understood that this contact allows a large size lower step to be used.

As to claim 15, Soviet Union teaches a rounded shape such as a circle for a step of a wear indicator.

As to claim 16, Soviet Union teaches using a "polygon shape" such as rhomboidal shape or square shape for a step of a wear indicator and a rounded shape such as a circle for a different step of the wear indicator.

As to claims 17 and 18, Soviet Union teaches using different shapes for different steps of a wear indicator (Figure 6).

As to claim 20, it would have been obvious to one of ordinary skill in the art to use six pairs of holes arranged at intervals in a circumferential direction of the tire in

view of Slingluff's suggestion to locate groups of rotation timing indicating holes at uniform intervals around the circumference of the tire (col. 4 lines 8-17).

As to claim 21, the claimed indicating steps read on using Japan 684's tire such that the first step disappears and continuing to use the tire such that the second step disappears. Claim 21 fails to require using this wear information in a positive step of changing the position of the tire on a vehicle. In any event: It would have been obvious to one of ordinary skill in the art to use the steps of Japan 684's wear indicating hole to indicate a first tire rotation timing and a second tire rotation timing since (1) Japan 608 teaches providing the steps of a stepped wear indicating hole with depths so that when a first step of the hole disappears, a first rotation is carried out and when a second step of the hole disappears, a second rotation is carried out and/or (2) Slingluff suggests using holes of different depths to indicate when the tire has worn to a level where it is due for rotation to another wheel position on a vehicle.

Remarks

3) Applicant's arguments filed 5-22-08 have been fully considered but they are not persuasive.

With respect to figure 2f of Japan 684, applicant comments that an outline defined by end wall 1 changes only in length. Applicant argues that the shape of the outline does not change at all. Examiner acknowledges that the edges of the steps of Japan 684's figure 2(f) have a quadrilateral shape having straight edges. However, the use of different shapes for edges of different steps of a wear indicator is not novel. Figure 6 of Soviet Union shows a wear indicator having three steps wherein the

smallest step has curved edges whereas the other two steps have straight edges. The use of different shapes for the edges of the steps of Japan 684's tire tread wear indicator would have been obvious in light of Soviet Union's teaching to use **different shapes for the edges of different steps** of a tire tread wear indicator (figure 6) as an alternative to using **the same shape for the edges of different steps** of a tire tread wear indicator (figure 4).

Applicant comments that the progression of wear of the claimed tread is easily discerned because the gross outline of the hole changes. Examiner comments that progression of wear of Japan 684's tread can also be discerned because the gross outline of the hole changes - the size of the outline of the stepped tire tread wear indicator changes. With respect to the shape of the outline changing, Soviet Union teaches a tire tread wear indicator which permits a person to easily discern the progression of wear of a tread because the size and shape of the outline of the stepped tire tread wear indicator changes. See figure 6 of Soviet Union.

Applicant argues that Soviet Union does not disclose or suggest using a hole per se as a wear indicator. This argument is off-point. It is undisputed that Japan 684 teaches a stepped tire tread wear indicator. It is undisputed that Soviet Union teaches a stepped tire tread wear indicator. Thus, Japan 684 and Soviet Union teaches the same subject matter of a stepped tire tread wear indicator. As to *how to form the steps*, Japan 684 teaches using a hole. See figure 4f of Japan 684. As to *suitable shapes for the edges of the steps*, Soviet Union teaches using different shapes such as a circle and a straight sided polygon. See figure 6 of Soviet Union.

Applicant observes that all of the wear indicators disclosed in Soviet Union are formed as projections. Examiner observes that Soviet Union states: "... can be formed by shaping one of the tread projections, or can have the form of an opening in one of these projections" (emphasis added). See abstract of Soviet Union. Examiner also observes that Slinghuff (an optional reference) teaches a wear indicator in the form of holes or projections. See col. 4 lines 18-45 of Slinghuff. Most importantly, examiner observes that Japan 684 teaches a wear indicator in the form of a hole. See figure 4f of Japan 684.

Applicant argues that the second step in Soviet Union is not inscribed on or included in the first step. This argument is not persuasive. In figure 6, the circular edge of the first step is included in the straight sided polygon edge of the second step. When viewed from above, the inclusion of the circle within the polygon of Soviet Union's stepped tire tread wear indicator is similar to that shown in figure 3(e) of applicant's application. It is noted that "included in" is broader than "inscribed on". Moreover, the narrower rectangular edge of the lower second step of Japan 684's stepped tire tread wear indicator contacts (and is thereby included in) the wider rectangular edge of the first upper step.

Applicant comments that the claimed invention enables tread wear to be discerned just from the contour of the indication hole. The same is true with Japan 684 and Soviet Union's stepped tread wear indicators. The change of the wider rectangular contour to the narrower rectangular contour in the figure 2f embodiment of Japan 684

indicates tread wear. The change of the circular contour to the polygon contour in the figure 6 embodiment of Soviet Union indicates tread wear.

- 4) No claim is allowed.
- 5) **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

- 6) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven D. Maki/
Primary Examiner, Art Unit 1791

Steven D. Maki
June 5, 2008